AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A thin film analysis system for analyzing a test sample, the test sample comprising a thin film formed on a substrate and a contaminant layer formed on the thin film, the thin film analysis system comprising:

an energy beam source for directing an energy beam at the contaminant layer during a cleaning operation, the energy beam being configured to ~~remove a portion of~~ create an opening in the contaminant layer ~~to expose an analysis area on the thin film~~; and

a thin film analysis module for performing at least one of single wavelength ellipsometry (SWE), spectroscopic ellipsometry (SE), reflectometry, grazing incidence x-ray reflectometry (GXR), x-ray fluorescence (XRF), electron microprobe analysis (EMP), non-contact-based electrical analysis, and contact-based electrical analysis on the thin film through the opening in the contaminant layer ~~at the analysis area~~.

Claims 2-7 (cancelled)

Claim 8 (original): The thin film analysis system of Claim 1, wherein the energy beam source comprises a pulsed laser.

Claim 9 (original): The thin film analysis system of Claim 8, wherein the pulsed laser comprises a Q-switched laser.

Claim 10 (original): The thin film analysis system of Claim 9, wherein the Q-switched laser comprises a yttrium aluminum garnet (YAG) laser.

Claim 11 (original): The thin film analysis system of Claim 10, wherein the YAG laser operates at a wavelength of approximately 532nm.

Claim 12 (original): The thin film analysis system of Claim 10, wherein the YAG laser operates at a wavelength of approximately 355nm.

Claim 13 (original): The thin film analysis system of Claim 8, wherein the pulsed laser comprises a pulsed diode laser.

Claim 14 (original): The thin film analysis system of Claim 8, wherein the pulsed laser comprises an alexandrite laser.

Claim 15 (original): The thin film analysis system of Claim 1, wherein the energy beam source comprises a continuous laser modulated to produce a pulse.

Claim 16 (original): The thin film analysis system of Claim 1, wherein the energy beam source comprises a laser having a pulse energy between approximately 5 to 100 μJoules.

Claim 17 (original): The thin film analysis system of Claim 1, wherein the energy beam source comprises an optical fiber for transmitting the laser beam from an energy beam generator to the portion of the contaminant layer.

Claim 18 (original): The thin film analysis system of Claim 1, wherein the energy beam source comprises a flashlamp.

Claim 19 (currently amended): The thin film analysis system of Claim 1, wherein the opening in the contaminant layer exposes

~~the analysis area comprises~~ a non-functional region of the test sample.

Claim 20 (currently amended): The thin film analysis system of Claim 1, wherein the ~~analysis area~~ opening in the contaminant layer comprises a length and a width, wherein the length and the width are both approximately 20μm or greater.

Claim 21 (currently amended): The thin film analysis system of Claim 1, wherein the thin film analysis module is configured to direct a probe beam at the ~~analysis area~~ test sample through the opening in the contaminant layer during the measurement operation, wherein the probe beam is focused on a first location on the test sample and the energy beam is focused on a second location on the test sample, the first location and the second location being substantially the same.

Claim 22 (cancelled)

Claim 23 (cancelled)

Claim 24 (currently amended): The thin film analysis system of Claim 1, wherein the thin film analysis module is configured to apply a probe structure to the ~~analysis area~~ thin film through the opening in the contaminant layer during the measurement operation, wherein the probe structure is aimed at a first location on the test sample and the energy beam is focused on a second location on the test sample, the first location and the second location being substantially the same.

Claim 25 (cancelled)

Claim 26 (cancelled)

Claim 27 (currently amended): A method for analyzing a test sample, wherein a contaminant layer covers a thin film of the test sample, the method comprising:

placing the test sample on a stage;

directing an energy beam at a first location on the contaminant layer while the test sample is on the stage, the energy beam removing a first portion of the contaminant layer to create an opening in the contaminant layer to expose a first analysis area of the thin film; and

performing at least one of single wavelength ellipsometry (SWE), spectroscopic ellipsometry (SE), reflectometry, grazing incidence x-ray reflectometry (GXR), x-ray fluorescence (XRF), electron microprobe analysis (EMP), non-contact-based electrical analysis, and contact-based electrical analysis on the thin film at the first analysis area through the opening in the contaminant layer while the test sample is on the stage.

Claim 28-32 (cancelled)

Claim 33 (original): The method of Claim 27, wherein directing the energy beam comprises applying at least one pulse from a pulsed laser to the first location on the contaminant layer.

Claim 34 (original): The method of Claim 33, wherein the pulsed laser comprises a Q-switched yttrium aluminum garnet (YAG) laser.

Claim 35 (original): The method of Claim 27, wherein the first analysis area comprises a non-functional region of the test sample.

Claim 36 (currently amended): The method of Claim 27, wherein the opening in the contaminant layer ~~first analysis area~~ comprises a length and a width, wherein the length and the width are both approximately 20μm or greater.

Claim 37 (currently amended): The method of Claim 27, further comprising:

directing the energy beam at a second location on the contaminant layer, the energy beam removing a second portion of the contaminant layer to create a second opening in the contaminant layer to expose a second analysis area of the thin film ; and

performing at least one of single wavelength ellipsometry (SWE), spectroscopic ellipsometry (SE), reflectometry, grazing incidence x-ray reflectometry (GXR), x-ray fluorescence (XRF), electron microprobe analysis (EMP), non-contact-based electrical analysis, and contact-based electrical analysis on the thin film at the second analysis area through the second opening in the contaminant layer.

Claim 38 (cancelled)

Claim 39 (cancelled)

Claim 40 (cancelled)

Claim 41 (currently amended): A thin film analysis system for analyzing a test sample, the test sample comprising a thin film formed on a substrate and a contaminant layer formed on the thin film, the thin film analysis system comprising:

means for directing an energy beam at the contaminant layer during a cleaning operation, the energy beam removing a portion of the contaminant layer to create an opening in the contaminant layer to expose an analysis area on the thin film; and

means for performing at least one of single wavelength ellipsometry (SWE), spectroscopic ellipsometry (SE), reflectometry, grazing incidence x-ray reflectometry (GXR), x-ray fluorescence (XRF), electron microprobe analysis (EMP), non-contact-based electrical analysis, and contact-based electrical analysis on the thin film at the analysis area through the opening in the contaminant layer.

Claim 42 (cancelled)

Claim 43 (original): The thin film analysis system of Claim 41, wherein the means for directing the energy beam comprises a Q-switched yttrium aluminum garnet (YAG) laser.

Claim 44 (original): The thin film analysis system of Claim 41, wherein the means for performing a measurement operation comprises means for directing a probe beam at the analysis area during the measurement operation, wherein the probe beam is focused on a first location on the test sample and the energy beam is focused on a second location on the test sample, the first location and the second location being substantially the same.

Claim 45 (cancelled)

Claim 46 (cancelled)

Claim 47 (original): The thin film analysis system of Claim 41, wherein the means for performing a measurement operation comprises means for applying a probe structure to the analysis area during the measurement operation, wherein the probe structure is aimed at a first location on the test sample and the energy beam is focused on a second location on the test sample, the first location and the second location being substantially the same.

Claim 48 (cancelled)

Claim 49 (cancelled)

Claim 50 (cancelled)

Claim 51 (previously presented): A thin film analysis system for analyzing a test sample, the test sample comprising a thin film formed on a substrate and a contaminant layer formed on the thin film, the thin film analysis system comprising:

an energy beam source for directing an energy beam at the contaminant layer during a cleaning operation, the energy beam being configured to remove a portion of the contaminant layer to expose an analysis area on the thin film; and

a thin film analysis module for measuring the thin film at the analysis area, wherein the thin film analysis module comprises a contact-based electrical analysis system.

Claim 52 (previously presented): A method for analyzing a test sample, wherein a contaminant layer covers a thin film of the test sample, the method comprising:

placing the test sample on a stage;

directing an energy beam at a first location on the contaminant layer while the test sample is on the stage, the energy beam removing a first portion of the contaminant layer to expose a first analysis area of the thin film; and

measuring the thin film at the first analysis area while the test sample is on the stage, wherein measuring the thin film comprises performing a contact-based electrical analysis.